SCIENCE & GOVERNMENT REPORT

17th Year of Publication

The Independent Bulletin of Science Policy

Volume XVII, Number 13 | P.O. Box 6226A, Washington, D.C. 20015 | August 1, 1987

Critical Academy Report

Another Blast at Agriculture's R&D Policies and Peer Review

Science policy has been treated to another round in the old struggle between the richly funded Agricultural Research Service and mainstream basic-science mandarins, who are envious of all that politically protected ag-science money and scornful of how it's used. The ARS budget now stands at $510 million, a sum that's drawing attention as budget stringencies frustrate a variety of scientific aspirations in other agencies and strains develop in the live-and-let-live protocol of the federal R&D trough.

ARS, the establishment critics have repeatedly charged over the past 15 years, operates in a non-competitive scientific backwater, virtually devoid of serious peer review and outside stimulus. In particular, there's growing resentment toward ARS's slow move into biotechnology, for which it provided a mere $25 million in 1985, while other federal agencies spent a great deal more (see In Print, Page 7). In response to these long-running criticisms, ARS has repeatedly promised to review its procedures and study adoption of the competitive, peer-reviewed money-awarding techniques central to the operations of the National Science Foundation and the National Institutes of Health.

But the routine is firmly established: Several years go by, another review is conducted, and the conclusion remains unchanged: Peer review hangs on as an outsider

Science Attaches in Washington—P. 5

OSTP: Gloomy Assessments Abound—P. 8

at ARS. The conclusion applies both to review of proposed research and examination of work in progress or completed. The unstated reason for the inhospitality to peer review at ARS is that the farm lobby in Congress likes it that way; peer review is politically unpredictable, whereas ARS's share-the-wealth allocations leave no old retainers gasping for help.

The latest replay on ARS and peer review comes in a report, *Improving Research Through Peer Review*, produced at an old institutional critic of the ag way of doing science, the National Academy of Sciences. (The report, 14 pages, is available without charge from: NAS, Board on Agriculture, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 202/334-3069.)

In people and spirit, the Academy is close to NSF and NIH, which both worship peer review. The Academy is distant from the agricultural research community, which

(Continued on page 2)

Basic Research Boosted

Fear of Western Cutoff Spurs Japan to Broaden R&D Efforts

Tokyo. Japan has long been assailed for commercially exploiting basic research from other nations while contributing little to the pool of fundamental knowledge. A turnabout is now in progress here, as Japan puts more emphasis on basic science and innovative technologies. The change was pushed by various factors, prominent among them a growing fear that the Western trend toward protectionism in trade will spill over into science and limit Japan's access to foreign research.

Even without the spur of foreign resentment and chidings, the Japanese scientific and technical enterprise would be moving toward new frontiers. It is generally felt here that the country has caught up with, and in some case overtaken, the West in a variety of technologies, and that it now has an R&D infrastructure capable of producing significant advances in pure research

(Continued on page 3)

In Brief

Accused of controlling a disproportionate share of the nation's R&D resources, the Pentagon pleads innocent. Add up federal and private R&D spending, and the DoD cut is only 28 percent, Craig Fields, a senior Pentagon R&D administrator, told the House Science, Space, and Technology Committee on June 18. As for manpower, "DoD supports 14 percent of US scientists and engineers." And, he said, it supports only 12 percent of the nation's basic research, and pays for only 11 percent of all research in universities.

But looked at another way, DoD and other national security agencies receive 75 percent of all federal R&D money—and the Pentagon is the financial mainstay for several fields of academic science, providing 70 percent of federal support for artificial intelligence and 60 percent for advanced computer research.

The issue of DoD's research budget has been raised in the Democratic primary campaign by Rep. Richard A. Gephardt (D-Mo.), who, citing the 75 percent figure, says it's incompatible with our industrial needs.

Meanwhile, NIH can claim frugality in running its massive peer-review system. In 1972, it spent $8.3 million (current dollars) to review 10,614 applications, at a cost per application of $788. In 1986, it spent $22.7 million to review 22,484 applications, at a cost each of $1010. Adjust those figures for inflation, NIH calculates, and the review cost per application has actually dropped (in 1986 dollars) from $1912 in 1972 to the $1010 in 1986.

. . . Peer Review? ARS Staff Sees It as "Busy Work"

(Continued from page 1)
is based in land-grant college departments that account for little membership in the honorific institution. Nonetheless, according to the preface of the report, ARS Administrator Terry B. Kinney Jr. asked the Academy to "examine the [ARS] project peer review system, assess its effectiveness, and recommend improvement."

The assignment was turned over to the Academy's Committee on Peer Review Procedures, a 13-member body chaired by a veteran adherent of peer review, Richard S. Nicholson, NSF's Assistant Director for Mathematical and Physical Sciences. One may be certain that the Nicholson Committee didn't tell Kinney anything he didn't already know—which means that the embattled ARS Administrator turned to the Academy to get another report to throw into his campaign for shaking up his entrenched enterprise.

Based on two days of meetings and interviews with ARS staff members, the Nicholson Committee concluded that paperwork and procedures around ARS suggest a significant role for peer review in awarding funds for the 1600 inhouse projects in ARS's network of 127 research facilities. But, after lifting the curtain on the actual workings of the system, it reported a different story:

> The committee finds a lack of understanding and agreement among ARS staff members regarding the purpose, use, and effect of the project peer-review system. Many staff members also believe that the system has no real impact on ARS research. As a result, some view it more as busy work than a substantive review of real or potential value to ARS scientists and, ultimately, to ARS. This view seems logical, because it appears the results of project peer review have no direct bearing on decisions affecting project funding, staff promotion, and merit pay increases.

The Academy report notes, too, that the ARS version of peer review does not incorporate the arms-length procedures standard in other agencies. In particular, reference was made to the NIH intramural program, which combines government employment with periodic retrospective review by specialists from outside NIH. In contrast, the report stated, "Project peer reviews do not directly influence whether or at what levels ARS research projects are funded." It need not be that way, the report continues, noting that "peer review of inhouse government-funded research can be effectively integrated with processes of resource allocation, as in the NIH intramural research program reviews."

"Currently, an ARS scientist provides a list of peer reviewers for his or her proposal," the report states. "The area director's staff make the final selection from the list. This practice is contrary to that practiced elsewhere. It is a potential source of criticism and bias that could undermine the credibility of the peer-review system."

On matters large and small, the committee faulted ARS's peer-review procedures, including the paperwork form it uses. ARS staff was reported as complaining that the form "is highly structured and asks for often irrelevant information." The Academy committee also found that there "is some misunderstanding and disagreement among ARS staff regarding anonymity of peer reviewers. Most peer review systems," the Academy committee reminded the ARS, "protect reviewers' anonymity; this protection presumably increases candor."

Turning to the professional staffing of ARS, the committee raised a hint that ARS is laden with tenured dead wood. Of ARS's 8500 fulltime employes, the report stated, 35 percent are scientists and engineers, for whom permanent appointments may be granted after only one year of service. With an attrition rate among scientists of only 3 to 5 percent, the committee stated, "The ARS management therefore has the opportunity to fill about 100 posts each year with scientists skilled in new areas important to the ARS mission." The promotion and tenure process was described as follows:

"The scientist under review writes a description of his or her duties . . . and scientific qualifications. The scientist's research leader and area director must approve the document. The ARS personnel division chooses a seven-person inhouse review panel that includes one person from management, one person from personnel, and five peer scientists . . . Final panel decisions are based on consensus and released in a written form." The Academy committee noted without comment that "ARS scientists, management, and persons in other federal agencies highly regard" the ARS promotion and tenure system.

The Academy report contains its own epitaph, presented as the final paragraph: "The committee endorses the recommendation of the 1985 [Academy] report *New Directions for Biosciences Research in Agriculture: High Reward Opportunities* that a research advisory council reporting to the [ARS] Administrator be established. An important function of this council could be oversight of the peer-review system."

Serving with Nicholson on the NAS committee are: Leonard Dewhirst, U. Arizona; Norman Hackerman, Robert A. Welch Foundation; Maureen Hanson, Cornell U.; Ralph W. F. Hardy, Boyce Thompson Institute; Edgar L. Kendrick, USDA (ret.); Ruth L. Kirschstein, NIH; Richard J. Patterson, North Carolina Biotechnology Center; Denis J. Prager, MacArthur Foundation; Richard B. Setlow, Brookhaven National Laboratory; Leo M. Walsh, U. Wisconsin; Ronald A. Walter, Los Alamos National Laboratory, and Barbara Donahue Webster, UC Davis.—DSG

. . . US Firms More Sensitive to Technology Transfer

(Continued from page 1)

areas such as physics and biochemistry.

Another driving factor is the tightening link between fundamental science and industrial innovation in biotechnology, materials, electronics, and so on. The dangers of lagging in original work are widely referred to here in dialogs on research strategies. Professor Ken-Ichi Imai, an economist at Hitotsubashi University, in Tokyo, monitors the state of Japanese technology. He warns that failure to expand Japan's presence in the basic sciences could lead to "severe bottlenecks to progress" in the industries of the future.

Deeper under the surface, however, is concern that other countries will put curbs on the flow of scientific and technical information to Japan. In particular, it is feared that US companies may be less willing to share innovative work with their nation's great industrial rival. Some people in the Japanese scientific and technical community feel that, inevitably, the US government, pushed by the politics of the job market, will try to curb transfers of civilian technology in the same way it now curbs military technology.

Protecting Intellectual Property

Anxieties about these possibilities are quite prevalent here. Yoichi Anzai, an official in the Science and Technology Department of Japan's leading employers' federation, the Keidenran, predicts that due to increasing competitive pressures, the US and Europe are likely to become less willing to transfer technologies to Japan. "Ten to 15 years ago, they weren't so sensitive," he says. These sentiments are echoed by Ryuichi Fujita, an economist who studies high-technology industry at the Long-Term Credit Bank of Japan, a leading Tokyo bank. He says that US organizations doing business with Japan are showing "an increased awareness of intellectual property rights." And he thinks it likely that US firms will become less inclined to provide licenses to Japanese companies; at the very least, he says, the prices will go up.

The movement of technology from the US to Japan continues to run at a high level, but has decreased in recent years, apparently reflecting Japan's increased capabilities. In 1984, Japan imported technology licenses worth 277 billion yen, of which almost 70 percent came from the US. Technology exports from Japan to the US added up to just 66 billion yen. This kind of trade surplus would normally be a happy event on the American scene. But it has produced charges that American companies and research organizations are contributing to the power of their nation's fiercest competitor.

That view is espoused by Professor Robert Reich, of Harvard, who says that "US companies have continually underestimated the ability of the Japanese to transfer technology into products and processes." Reich notes a growing trend of Japanese firms to rely not so much on technology licensing as on taking equity stakes in US companies "as a way of learning about the technology from the inside."

Comments like that don't usually seem to bother American firms that enter into deals with the Japanese. An example is Energy Conversion Devices (ECD), of Troy, Michigan, which specializes in materials research. The company has provided technology licenses to several Japanese firms, including Sony and Nippon Steel. Moreover, Canon, the office equipment and camera group, has a 7 percent stake in ECD.

Mike Iwakata, Managing Director of ECD's Japanese subsidiary, says he sometimes hears comments that joint ventures with Japan are unpopular with some factions in Congress and in parts of the Executive Branch. But he shrugs them off, saying that the links are in the best interest of his company.

Japan's already impressive R&D statistics will soon start to show a shift toward the purer aspects of research. Total R&D spending stood at about $50 billion in 1985, a figure second only to the US R&D total. The great bulk of the money was weighted toward short-term applications, and about three-quarters of the total sum was provided by industry, a factor that focuses resources away from the basic-research end of the spectrum. In the US and Europe, industrial firms provide about half of the national totals for R&D spending.

Big companies such as Fujitsu, NTT, NEC, Toshiba, and Canon say they are striving to get their researchers to do more basic, original work in science; the same is heard about government laboratories.

A lot of hope is pinned on large government projects aimed at coupling basic science and industrial innovation. The most prominent is the Fifth Generation Computer Program, a 10-year scheme to develop "thinking machines" that will not only capture great markets but also show the world that Japan is capable of producing

(Continued on page 4)

ISSN 0048-9581

Editor and Publisher
Daniel S. Greenberg

Associate Publisher
Wanda J. Reif

European Correspondent
Francois Seguier (Paris)

Independently published by *Science & Government Report, Inc.*, twice monthly, except once each in January, July, August, and September. Annual subscription: Institutions, $195.00 (two years, $340.00). Information about bulk and individual rates upon request. Editorial offices at 3736 Kanawha St. N.W., Washington, DC 20015. Tel. (202) 244-4135. Second-class postage at Washington, D.C. Please address all subscription correspondence to Box 6226A, Northwest Station, Washington, DC 20015. SGR is available on University Microfilms International. Claims for missing back issues will be filled without charge if made within six weeks of publication date.

Basic Research Lags as Emphasis on Applied Grows, OECD Says:

While Japan is enlarging its support of basic research, the general trend in other countries is to boost applied science at the expense of the basic end of the spectrum. That's the major finding in a forthcoming report by the Organzation for Economic Cooperation and Development (OECD), the 24-member consortium of industrialized nations.

The shift has been produced by the worldwide emphasis on industrial competitiveness, plus renewed interest in energy- and environment-related technologies, says the OECD report. It notes that "there has been a nearly universal decline within the OECD area in the share of government R&D spending devoted to the general advancement of knowledge, of which university research is the most important component." The findings on research trends are included in a report titled *Economic Performance and Structural Adjustment,* written by the OECD secretariat and scheduled for publication in September.

The report states that the average university researcher in the OECD countries suffered a 10-percent loss in purchasing power in the decade up to 1981. Since then, support has risen in real terms, but at a slower rate than for applied research, while the costs of instrumentation and technical support have grown rapidly.

The study recommends several steps that it says could ease the situation without large expenditures, including:

• Greater Flexibility. Funding authorities should ease restrictions on government and university scientists working in or taking assignments from the private sector. These arrangements can bring in extra funds and increase the researchers' knowledge of industrial problems, the report states.

• More Selectivity. To maintain critical mass in research facilities, countries should establish "centers of excellence" in specific scientific fields. The study cautions, however, that this approach must not result in "the creation of unsurmountable entry barriers for new research teams, nor create vested interests capable of resisting future change."

• Better Links with Industry. Companies are becoming interested in a wide array of "generic technologies," from biochemistry to surface physics, because of the value of these disciplines for industrial innovation and processes. Hence, the possibilities of doing industrially oriented work, and getting paid for it, are increasing for the average researcher, the report says. It cautions, however, that growing industrial involvement in basic research confronts higher education with complex issues of "property rights which may or may not be accorded to those funding the research."

• Reinforcing International Collaboration. Pooling research resources is likely to become more popular as the commercialization of R&D speeds up and individual companies realize they need help to compete. As current examples, the report referred to Europe's industrial collaborations in various fields under the umbrella of the Eureka program and the electronic collaborations organized under Esprit. This was followed by another caution: As countries increase their reliance on shared efforts, they should encourage openness in science and technology and resist the temptation to clamp down on international technology flows for military or commercial purposes.—PM

Japan *(Continued from page 3)*

first-class research and is not a high-tech parasite. There's a lot of sensitivity on that subject. Industrial officials go out of their way to confront the often-heard comments about consensus-ridden Japanese society being incapable of scientific originality or major leaps in technological innovation.

Hitachi has recently opened an advanced research center to work in particle physics, software engineering, and biotechnology. Recruiting an 80-member top-notch staff was not at all difficult, according to a senior Hitachi R&D executive, Motokazu Uchida. "We didn't have to go out and find anyone eccentric," he said. "As a nation, I don't think we are lacking in originality."

For all this type of talk, doubt still exists about the success that Japan will achieve from its determined drive to become a major force in basic research and advanced technology. Henry Ergas, who monitors R&D trends for the Organization for Economic Research and Development, expressed some of these doubts in a report last year. The central question about Japan's future in research, he said, is the "system's effectiveness once Japan arrives at the technological frontier. It is presumably easier to set broad goals in the catching up stage than in pushing beyond the state of the art."—Peter Marsh

(The author, technology correspondent for the *Financial Times* of London, recently visited Japan.)

SGR Summer Schedule

The next issue of *Science & Government Report* will be published September 1, 1987.

Science Attaches: The Cast Based in Washington

Last May 1, SGR directed attention to an underutilized source of information about science, technology, and related matters in many countries—the science counselors and attaches posted at American embassies and missions in most major capitals. These techo-diplomats frequently can be helpful in establishing contacts with foreign researchers and administrators, though some will and others won't, depending on workload, temperament, and reasonableness of requests. Another route to such assistance is through their foreign counterparts at some 30 embassies in Washington. Following is that roster. Address by Embassy of (the country named), plus street numbers, etc.; the telephone area code is 202.

•

Australia. Dr. Joe R. Hlubucek, Counselor for Science and Technology, 1601 Mass. Ave. NW, Wash., DC 20036; 797-3258

Austria. Mr. Heinz Chladek, Counselor, Science and Technology, 2343 Mass. Ave. NW, Wash., DC 20008; 667-8158

Belgium. Mr. Denis Dewez, Scientific Counselor, 3330 Garfield St. NW, Wash., DC 200008; 333-6900

Brazil. Mr. Afonso A. S. Carbonar, Science Attache, 3006 Mass. Ave. NW, Wash., DC, 20008; 745-2750

Bulgaria. Mr. Stanoy V. Tosher, 1st Secretary, Science and Technology; Mr. Borislav Kirov, 1st Secretary, S&T, 2100 16th St. NW, Wash., DC 20009; 387-7970

Canada. Dr. W. F. Cockburn, Science Counselor, 1746 Mass. Ave. NW, Wash., DC 20036; 785-1400.

China (PRC). Mr. Lu Jingting, Minister-Counselor, Science and Technology; Mr. Liu Congmeng, 2d Secretary, S&T; Mr. Li Yuan Wei, 1st Secretary, S&T; Mr. Wang Zhenquan, 1st Secretary, S&T; Mr. Li Mingde, 1st Secretary; Mr. Cheng Yungzeng, 2d Secretary; Mr. Liu Jingfeng, Attache; Mr. Li Zheng, Attache, 2300 Conn. Ave. NW, Wash., DC 20008; 328-2530 to 33.

Czechoslovakia. Mr. Jirij Zdark, Head, Scientific Section; Mr. Pavel Zavazal, Second Secretary, 3900 Linnen Ave. NW, Wash., DC 20008; 363-6315

Finland. Dr. Jorma Heinonen, Counselor for Science and Technology, 3201 New Mexico Ave. NW, Wash., DC 20016; 662-1240.

France. Mr. Jean-Claude Derian, Scientific Counselor; Scientific Attaches: Mr. Jean de Beaupuis, Medical; Mr. Michel Bernon, Environment; Mr. Jean-Marc de Comarmond, Electronics; Mr. Dominique Cotto, Materials; Mr. Louis Laidet, Space; Mrs. Laurence Ratier-Coutrot, Social Sciences; Ms. Madelein Rives, Agriculture; Mr. Jacques Tamisier, Telecommunications; Mr. Albert Lumbroso, CNRS, 4101 Reservoir Rd. NW, Washington, DC 20007; 944-6000.

German Democratic Republic. Mr.Hans Joachin Zabel, Counselor, Science and Technology; Mr. Klaus Moder, 2d Secretary; Mr. Hartmut Pfeiffer, 3d Secretary, 1717 Mass. Ave. NW, Wash., DC 20036; 232-3134.

German Federal Republic. Mr. Heinz G. Seipel, Scientific Counselor; Dr. Bernd-Uwe Jahn, Counselor, Scientific and Technological Affairs; Mr. Hans-Wulf Bartels, 1st Secretary, Scientific; Mr. Rainer Schomburg, Asst. Attache, 4645 Reservoir Rd. NW, Wash., DC 20007; 298-4328.

Great Britain. Dr. Anthony R. Cox, Counselor, Science and Technology; Dr. Douglas Yarrow, 1st Secretary (Science); Dr. Richard Horton, 1st Secretary, Technology, 3100 Mass. Ave. NW, Wash. DC 20008; 898-4323.

Hungary. Mr. Lajos Nyiri, Science Attache, 3910 Shoemaker St. NW, Wash., DC 20008; 362-6730

India. Dr. J. S. Rao, Science Counselor; Mr. Arun Batra, 1st Secretary, Space, 2536 Mass. Ave. NW, Wash., DC 20008; 939-7073.

Ireland. Mr. Alan Ford, Third Secretary, 2234 Mass. Ave. NW, Wash., DC 20008; 462-3939

Israel. Dr. Menachem Tassa, Counselor, Scientific, 3514 International Dr. NW, Wash., DC 20008; 364-5500.

Italy. Dr. Emanuele Mannarino, Scientific Attache; Dr. Claudio Orzalesi, Scientific Attache, 1601 Fuller St., Wash., DC 20009; 328-5500.

Japan. Mr. Kaname Ikeda, Counselor (Scientific); Mr. Toichi Sakata, 1st Secretary, Scientific; Mr. Michio Ozawa, 2d Secretary, Scientific, 2520 Mass. Ave. NW, Wash., DC 20009; 939-6920.

Korea. Mr. Bak Kwang Kang, Science Attache, 2320 Mass. Ave. NW, Wash., DC 20008; 939-5674.

Netherlands. Mr. Emile G. Louzada, Scientific Attache; Mr. Wim J. van Teeffelen, Asst. Scientific Attache, 4200 Linnean Ave. NW, Wash., DC 20008; 966-0707.

Norway. Ms. Berit Helene Pettersen, 2720 34th St. NW, Wash., DC 20008; 333-6000.

Pakistan. Mr. Raja Afdab Ikbal, Defense Attache (also responsible for scientific and technical affairs), 2315 Mass. Ave. NW, Wash., DC 20008; 939-6236.

Poland. Mr. Maciej Szczawnicki, Scientific Counselor, 2640 16th St. NW, Wash., DC 20009; 234-2501 or 232-4517.

South Africa. Mr. C. G. Hide, Counselor, Science and Technology; Ms. Marijke Swierstra, Science Attache, 4801 Mass. Ave. NW, Wash., DC 20016; 362-8805.

Spain (no designated science-related post at present.)

Sweden. Dr. Sverker Hogberg, Scientific Counselor; Mr. Bo Ernbert, Scientific Attache; Mr. Hugo C. F. von Sydow, Attache for Forest Industry Matters, 600 New Hampshire Ave. NW, Wash., DC 20037; 337-5180.

Switzerland. Dr. Hans Peter Hertig, Counselor, Science and Technology; Dr. Martin Buechi, Attache, Science and Technology, 2900 Cathedral Ave. NW, Wash., DC 20008; 745-7954.

Tunisia. Mr. Radhaouane Nouicer, Director, University Mission of Tunisia, 1515 Mass. Ave. NW, Wash., DC 20005, 265-0066.

USSR. (see box, page 6.)

Venezuela. Dr. Gonzalo Palacios, Cultural and Information Attache, 2437 California St. NW, Wash., DC 20008, 797-3800.

Yugoslavia. Mr. Gregor Zore, 1st Secretary (Economic Section), 2410 California St. NW., Wash. DC 20008; 462-6566.

Commission of the European Communities. Mr. W. van Deelen, Counselor, Science and Technology, 2100 M St. NW, Suite 707, Wash. DC 20008; 862-9575.

Soviet Science Post in the US: Has a New Man Arrived?

A gaping omission on the list of Washington-based science counselors and attaches is an entry for the Soviet Union, which has been a bit cagey about the post for several years. But a new man, Vladimir Kryukov, arrived at the Soviet Embassy in Washington two weeks ago. The State Department says it hasn't been notified that he will bear the title Science Attache, but the new *glasnost* switchboard at the Embassy told SGR that's what he is, fresh from Moscow—but he can't come to the phone.

Though the US keeps an officially designated Science Attache at its Moscow Embassy, and reciprocity is the basic rule in Soviet-American embassy postings, the Soviets let the title lapse in Washington several years ago. The function, however, was handled by an Embassy staff member, Nikolai N. Kokovin, who held the title of First Secretary. He left the US last October, amid one of those recurring outbreaks of personna non grata ousters from embassies of the two superpowers.

In Washington science-policy circles, even among those pressing for closer Soviet ties, Kokovin's departure was not mourned. In the view of a non-government veteran of Soviet-American scientific discussions, "He had KGB written all over him."

Since Kokovin's departure, the man for science at the Soviet embassy has been Sergei Gurov, a First Secretary who also handles some cultural affairs. But, like his predecessor, he was recluse, not even taking part in the monthly meetings of the informal association of Washington-based science attaches, counselors, and other embassy personnel with science-related duties.

Since there's been relatively little scientific traffic between the US and the USSR from the waning days of the Carter Administration, the absence of a full-fledged science representative at the Soviet Embassy hasn't mattered much. This is especially so since the Reagan Adminstration's science officials have with, few exceptions, rigidly shunned Soviet contacts in the science field.

The appointment of a properly titled science official at the Soviet Embassy could possibly signal some intent in regard to scientific relations with the US. But the US government people who watch such matters say they don't know what it is.

To the Editor:

House Testimony on Roe Bill

As a witness at the House Science, Space, and Technology hearing [June 25] on Chairman Robert Roe's University Research Facilities Revitalization Act (HR 1905), I was disturbed to find that your account [SGR July 1] misconstrued the substance of my position and other witnesses [by stating that] "a long succession of academic witnesses warmly endorsed the Roe bill . . . . "

I expressed serious misgivings with HR 1905 and made a number of suggestions for its improvement. Similarly, neither President Luther Williams of Atlanta University nor President Herman Blake of Tougaloo College "warmly endorsed" the Roe bill, but, rather, they argued for setting aside a substantial portion of the funds under the bill to meet the needs of Historically Black Colleges and Universities. While all of us commended Congressman Roe for his leadership and initiative in introducing HR 1905, none of us endorsed the bill in its present form.

M. Richard Ros.
President
Rochester Institute of Technology

(Editor's Note: President Rose did indeed criticize the Roe bill's criteria for allocating funds, but he also concluded his prepared statement with "I hope that my obvious concern over issues of allocation has not overshadowed my enthusiasm for this bold and timely initiative.")

Science on TV

I found it amusing to discover in SGR [June 1] that WQED's series *Infinite Voyage* is "barely" keeping the TV science field alive. I'm sure that the approximately 12 million viewers of each NOVA program would also find it interesting, if not amusing.

Thomas Levenson
Science Editor, NOVA, WGBH-TV, Boston

(Editor's Note: Regular science programming is absent from the three major commerical networks. NOVA's programs are meritorious, but their audiences, with rare exceptions, are smaller than those of any primetime commercial network program.)

Tech Transfer Opens Wash. Office

The Federal Laboratory Consortium for Technology Transfer, a little-known but potentially influential organization for connecting federal labs to private firms and local governments, has appointed a representative to look after its interests in Washington: Lee W. Rivers, who recently retired as Director of Corporate Planning for Allied-Signal Inc.

The Washington position was created following passage of the Federal Technology Transfer Act of 1986, which provided a formal charter for the Consortium. Over 300 federal labs, from 11 agencies, are members. Rivers will be based at the National Bureau of Standards, Washington, DC 20234; tel. 202/331-4220.

In Print: NATO, NSF & Earthquakes, New Directories

New Technology for NATO: Implementing Follow-On Forces Attack (230 pages). This is the unclassified volume of a two-volume report by the Congressional Office of Technology Assessment on NATO's strategy and capabilities for destroying the follow-on waves of attacking Soviet-bloc forces before they reach the battlefield. OTA says that the concept, adopted by NATO in 1984, lacks supporting funds and basic tactical decisions for implementation, and is also tangled in trans-Atlantic rivalries over high-tech military equipment manufacture and sales.

GPO Stock No. 052-003-01063-1, $10.00, available from: Superintendent of Documents, USGPO, Washington, DC 20402; tel. 202/783-3238.

•

National Science Foundation: Problems Found in Decision Process for Awarding Earthquake Center (63 pages). A nice case study of the Washington research-funding apparatus at work, this report by the General Accounting Office dissects NSF's September 1986 award of a $25-million cooperative agreement for an Earthquake Engineering Center at SUNY Buffalo, in defiance of disinterested California Congressmen who favored UC Berkeley. GAO says it found no evidence of favoritism or lack of qualifications on NSF's review panel, but faults NSF headquarters for "weak management of the award process as well as the inadequacy of the written record"—thus providing ammunition for the losing California contingent.

GAO/RCED-87-146, no charge, US GAO, PO Box 6015, Gaithersburg, Md. 20877; tel. 202/275-6241.

•

Subject Directory of Special Libraries and Information Centers, 10th edition, five volumes covering over 18,000 libraries, information centers, archives, and other collections maintained by government agencies, business firms, educational institutions, and research organizations. Included are data on size and scope of collections, computer-based services, names of senior staff members, and library publications. The volumes are $150 each or $650 for the complete set. Subjects: Volume 1, Business and Law; Volume 2, Education and Information Science; Volume 3, Health Sciences; Volume 4, Social Sciences and Humanities; Volume 5, Science and Technology.

The Faculty Directory of Higher Education, first edition, 12 volumes, lists 600,000 American and Canadian faculty members in 12 disciplinary categories, including Computer Science and Data Processing (29,000 entries, $85); Engineering (36,000 entries, $100); Medicine and Nursing (77,600 entries, $140), Science and Mathematics (96,500 entries, $150), and Social Sciences (77,700 entries, $100).

Available from Gale Research Co., Book Tower, Detroit, Michigan 48226; tel. 313/961-2242.

Boost Urged in Bio-Tech Funds

Agricultural Biotechnology: Strategies for National Competitiveness (205 pages), report from the National Academy of Sciences, calls for raising federal competitive grants for bio-tech research from the estimated current $150 million a year to $500 million by 1990, in part by snitching funds from other research programs of the US Department of Agriculture; also urges more study of the ecological aspects of genetically engineered organisms, and asserts that "the public must be better educated about biotechnology"—shorthand for quelling the anxieties that many reasonable, informed citizens feel about the corner-cutting antics of bio-tech cowboys. Also recommended are strict peer, or merit, review in awarding federal funds, closer ties between government, university, and industrial researchers, and the encouragement of "state land-grant universities to confer exclusive licenses to private companies . . . to translate these discoveries into commercial products." The report was produced by a 14-member committee, drawn from academe and industry, chaired by Charles E. Hess, Dean of the College of Agricultural and Environmental Sciences, UC Davis.

Available at $14.95 per copy from: National Academy Press, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 202/334-3313.

SGR Binders Available

Embossed, loose-leaf binders to hold two annual volumes of *Science & Government Report* are available for $8.95 each. Please send payment with order: *Science & Government Report,* PO Box 6226, Washington, DC 20015

To Order or Renew

Science & Government Report
Northwest Station, Box 6226A
Washington, D.C. 20015

☐ Renew my subscription; ☐ Check enclosed
☐ Enter my subscription; ☐ Please bill

Institutional subscribers: one year, $195.00 ☐; two years, $340.00 ☐

(Overseas airmail, $30.00 per year additional.)

Name _____

Address _____

_____ Zip _____

White House Science Office Draws Gloomy Reviews

With the White House preoccupied with the Iran-contra fiasco, and Presidential Science Adviser William R. Graham widely regarded as the preeminent lightweight of the advisory craft, the word around Washington is that nothing creative in science policy is to be expected until a new Administration takes office.

The government science bureaucracy rings with near-universal dismay over the Graham operation, some members of his handpicked staff, and his hard-line, Cold War values. Graham is credited with a large role in ousting the newly admitted Soviets from the multi-national deep-sea drilling project operated by the National Science Foundation—to the grand dismay of NSF and the puzzlement of those who believed the Administration was seeking somewhat warmer relations with the Soviets.

After nearly one year in office, Graham's principal domestic achievement is the July 28-29 grandstanding show on commercialization of superconductivity—a pep rally without scientific content that has managed to offend our foreign friends by limiting attendance to Americans only. Dismay is felt even within the White House Science Council, the assemblage of wise men who advise the adviser. Among members there it has been noted that the Administration, while trumpeting the role of academic R&D for improving competitiveness, has lamely expressed opposition to Congressional measures for building and renovating university laboratories (SGR July 1, 1987).

Several foreign representatives who have attempted to talk research business with Graham tell the same story: he listens, neutrally indicates that he's received the message, and says nothing of substance.

Thus, there's early interest in what's next for Presidential science advice as it falls into disuse in the waning days of this Administration. What may be regarded as the opening gun of a debate was recently fired by Jerome Wiesner, former President of MIT, who served as President Kennedy's Science Adviser. Writing in the *Washington Post* (May 24, "Why We Need a Tough National Science Adviser") Wiesner argued that science advice under Reagan has simply been a yes-man operation rather than a source of open-minded, skillful counsel on scientific and technical opportunities and alternatives.

Wiesner's article did not even mention Graham, but, rather, focused on his predecessor, George A. Keyworth II, who came into the Administration in 1981 denouncing missile defense and went out five years later cheering the Strategic Defense Initiatve.

Graham, according to one insider in his operation, was infuriated by the article, though it's not clear whether he was set off by Wiesner's neglect of him or Wiesmer's concept for the office. In any case, the elder statesman have already begun private discourses on what's next in White House science advice. The answer must, of course, await the election outcome, but it's advantageous to be ready if a candidate asks.

Plagiary Case Figure Quits Job

The Cleveland Clinic Foundation has disclosed the resignation of Raymond J. Shamberger, a longtime staff member whose borrowings from a published report of the National Academy of Sciences were extensively chronicled in SGR of June 15. A spokesman for the Clinic said the resignation was submitted June 17, following an inhouse investigation of charges that a book by Shamberger, *Nutrition and Cancer* (Plenum, 1984), contained large chunks of unattributed text from a 1982 NAS report, *Diet, Nutrition, and Cancer*. Plenum has taken the Shamberger book off the market.

Shamberger said the attribution was inadvertenly omitted and he noted, too, that the Academy report was not copyrighted.

The Clinic spokesman said the charges against Shamberger were investigated by the institution's Board of Governors, which, he said, "came to the conclusion that not citing sources was not acceptable practice and could not be tolerated or condoned or sanctioned by this institution."

The Clinic is a major medical treatment and research institution, with a fulltime professional staff of 550, and a current annual budget of $600 million. Shamberger, a 52-year-old PhD, joined the staff in 1969 and was head of the Enzymology Section in the Division of Laboratory Medicine at the time of his resignation.

Science & Government Rep
Northwest Station
Box 6226A
Washington, D.C. 20015

Second class postage paid at Washington, D.C.